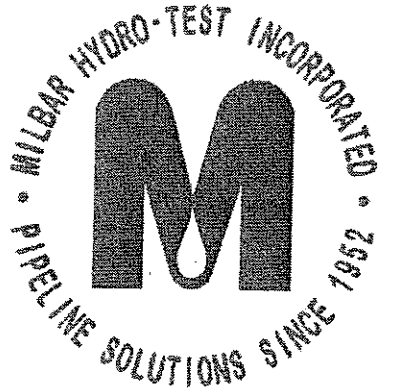
Pipeline Group Factual Report

ATTACHMENT 13

Demopolis – Milner Hydrotest

Carmichael, Mississippi
DCA 08 MP 001



DIXIE PIPELINE

DM-ML HYDROTEST 2004

Test Section Number 1A

M.P. 521.82 to M.P. 487.91

24 April 2004

Test Summary:

The purpose of this report is to summarize the results from Test Section 1A of the DM-ML Hydrotest 2004 Project for Dixie Pipeline. This section was comprised of 12.75" O.D. x 0.250" W.T. x Grade X-52. The section was between M.P. 487.91 and M.P. 521.82 for a total length of 33.91 miles.

The test began at 9:30 am on April 24, 2004 and ended at 5:30 pm on April 24, 2004. The initial test pressure at the test site for the strength test was 1,837 psi. At 1:35 pm the test pressure was reduced from 1,837 psi to 1,743 psi to begin the leak test portion of the hydrotest. After the full 8-hours the final test pressure was 1,743 psi.

The ambient temperature at the test site was 64°F at the beginning of the test and reached a maximum of 83°F and remained 83°F until the end of the test. The pipe temperature at the beginning of the test was 68°F and increased to a maximum of 83°F at the end of the test.

The minimum test pressure at the highest point in the test section during the strength test was 1,777 psi yielding 87.2% SMYS. The maximum test pressure at the lowest point during the strength test was 1,847 psi yielding 90.6% SMYS. The minimum test pressure at the highest point in the test section during the leak test was 1,683 psi yielding 82.5% SMYS. The maximum test pressure at the lowest point during the leak test was 1,753 psi yielding 86.0% SMYS. The test pressure was maintained throughout the duration of the test and was subsequently accepted as valid.

DIXIE PIPELINE

DM-ML HYDROTEST 2004

Test Section Number 1B

M.P. 521.82 to M.P. 560.72

28 April 2004

Test Summary:

The purpose of this report is to summarize the results from Test Section 1B of the DM-ML Hydrotest 2004 Project for Dixie Pipeline. This section was comprised of 12.75" O.D. x 0.250" W.T. x Grade X-52. The section was between M.P. 521.82 and M.P. 560.72 for a total length of 38.90 miles.

The test began at 8:00 am on April 28, 2004 and ended at 4:00 pm on April 28, 2004. The initial test pressure at the test site for the strength test was 1,900 psi. At 12:07 pm the test pressure was reduced from 1,900 psi to 1,799 psi to begin the leak test portion of the hydrotest. After the full 8-hours the final test pressure was 1,799 psi.

The ambient temperature at the test site was 45°F at the beginning of the test and reached a maximum of 75°F and remained 75°F until the end of the test. The pipe temperature at the beginning of the test was 61°F and increased to a maximum of 83°F at the end of the test.

The minimum test pressure at the highest point in the test section during the strength test was 1,695 psi yielding 83.1% SMYS. The maximum test pressure at the lowest point during the strength test was 1,900 psi yielding 93.2% SMYS. The minimum test pressure at the highest point in the test section during the leak test was 1,594 psi yielding 78.2% SMYS. The maximum test pressure at the lowest point during the leak test was 1,799 psi yielding 88.2% SMYS. The test pressure was maintained throughout the duration of the test and was subsequently accepted as valid.

MILBAR HYDRO-TEST INCORPORATED

TEST LOG

Date: 4/26/04

Page: 1 of 1

Company & Contractor: Dixie Pipeline		Project: DM - MP Hydro Test 2004	
Contract Number:	Location: Cahaba River MP 521.82	Pipe Description: 12.75 "O.D. .250 "W.T. K52 Grade	
Section Number(s): 1B	From: (MP)/STA MP 521.82 27552+18	To: (MP)/STA MP 560.72 296054.78	Length: 38.90 miles
Pressure Unit Location: MP 521.82	Pressure Unit #: PT-910	Gallons/Stroke: 0.551	Strokes/10psi: 1/4
Test Pressure Maximum: 1900 Psi	Test Pressure Minimum: 1800 Psi	Test Medium: Water	Weather: Rainy

Instruments	Dead Weight Gauge	Pressure	Temperature (Ambient)	Temperature (Pipe / Ground)	(Other)	(Other)
Range	50 - 3000 #	0 - 3000 #	0° - 150° F	0° - 150° F		
Manufacturer	Chandler	Foxboro	TAC	American		
Serial #	1070	239674	W53621	170967		
Certification	4/6/04	4/6/04	4/6/04	4/6/04	/ /	/ /

Date & Time Test Started: 4/26/04 10:15 ☒ AM ☐ PM

Date & Time Test Ended: 4/26/04 10:50 ☒ AM ☐ PM

Time	Pressure (psig)	Temperature (°F) Ambient	Temperature (°F) Pipe / Ground	Remarks
7:06A	387	62°	66°/72°	Start Pumping
8:47	1591	62°	66°/72°	30 min Leak Check
9:18	1591	62°	66°/72°	Start Plot
10:08	1900	62°	66°/72°	
10:15	1900	62°	66°/72°	ON Test
10:30	1900	62°	66°/72°	
10:45	1900	62°	66°/72°	
10:50	1900			Line Ruptured

Time	Pressure (psig)	Temperature (°F) Ambient	Temperature (°F) Pipe / Ground	Remarks

Log Continued: ☐ Yes ☐ No

Remarks: B/O 1B-2, MP 528.05, Stn. # 27880+90, 1900 PSIG, 35 MINS.

Section Accepted ☐ Yes P-V Plot ☐ Yes Section Ruptured ☒ Yes Section Leaking ☐ Yes

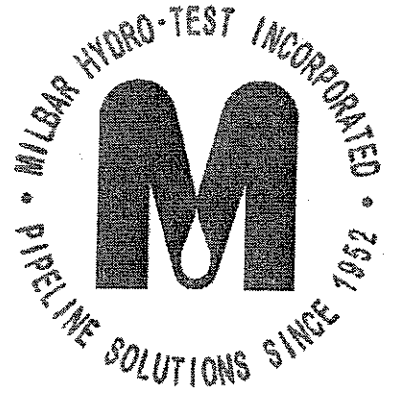
[redacted] 4/26/04

Milbar Superintendent Date

[redacted] 4-26-04

Company Representative Date

White - Company Yellow - Milbar



DIXIE PIPELINE

DM-ML HYDROTEST 2004

Test Section Number 2AW

M.P. 560.72 to M.P. 577.21

03 May 2004

Test Summary:

The purpose of this report is to summarize the results from Test Section 2AW of the DM-ML Hydrotest 2004 Project for Dixie Pipeline. This section was comprised of 12.75" O.D. x 0.250" W.T. x Grade X-52. The section was between M.P. 560.72 and M.P. 577.21 for a total length of 16.5 miles.

The test began at 8:45 am on May 03, 2004 and ended at 5:15 pm on May 03, 2004. The initial test pressure at the test site for the strength test was 1,822 psi. At 1:02 pm the test pressure was reduced from 1,822 psi to 1,722 psi to begin the leak test portion of the hydrotest. After the full 8-hours the final test pressure was 1,722 psi.

The ambient temperature at the test site was 55°F at the beginning of the test and reached a maximum of 65°F before decreasing to 64°F at the end of the test. The pipe temperature at the beginning of the test was 61°F and increased to a maximum of 79°F at the end of the test.

The minimum test pressure at the highest point in the test section during the strength test was 1,811 psi yielding 88.8% SMYS. The maximum test pressure at the lowest point during the strength test was 1,980 psi yielding 97.1% SMYS. The minimum test pressure at the highest point in the test section during the leak test was 1,711 psi yielding 83.9% SMYS. The maximum test pressure at the lowest point during the leak test was 1,880 psi yielding 92.2% SMYS. The test pressure was maintained throughout the duration of the test and was subsequently accepted as valid.

MILBAR HYDRO-TEST INCORPORATED

STROKE / PRESSURE LOG

Date: 04/24/04
Page: 1 of 1

Company & Contractor: DIXIE PIPELINE
Project: Demopolis to Milner
Contract Number:
Location: COOSA River
Pipe Description: 12 "O.D. .250 "W.T. X52 Grade
Section Number(s): 2A
From: MP/STA 30668 +62
To: MP/STA 29606+03
Length:

Pressure Unit Location: COOSA RIVER
Pressure Unit Number: PT 021
Gallons/Stroke: 0.463

Date & Time Start Pump: 4/24/04 10:11 ☒AM ☐PM Pressure:
Date & Time Stop Pump: 04/24/04 11:15 ☒AM ☐PM Pressure:

Time	Pressure (psig)	Strokes	Difference
10:11	1600	0	0
	10	74	74
	20	146	72
	30	216	70
	40	289	73
1018	1650	360	71
	60	431	71
	70	504	73
	80	576	72
	90	648	72
10:26	1700	717	69
	10	789	72
	20	862	73
	30	933	71
	40	1006	73
10:33	1750	1080	74
	60	1150	70
	70	1222	72
	80	1294	72
	90	1366	72
10:40	1800	1439	72
	10	1511	73
	20	1582	71
	30	1657	75
	40	1724	67
10:48	1850	1803	79
	60	1874	71
	70	1947	73
	80	2020	73

Time	Pressure (psig)	Strokes	Difference
	90	2091	71
10:55	1900	2163	72
	10	2236	73
	20	2307	71
	30	2380	73
	40	2454	74
11:03	1950	2528	74
	60	2601	73
	70	2673	72
	80	2744	71
	90	2817	73
	2000	2890	
	2006		

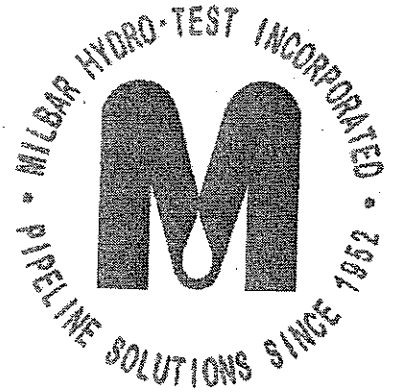
Log Continued: ☐ Yes ☐ No

Remarks: BLOWOUT #1, SECTION 2A, 2005 PSI, 11:10AM

[redacted]

Milbar Superintendent — Date

Company Representative — 4/24/04 Date



DIXIE PIPELINE

DM-ML HYDROTEST 2004

Test Section Number 2AE

M.P. 577.21 to M.P. 580.8

01 May 2004

Test Summary:

The purpose of this report is to summarize the results from Test Section 2AE of the DM-ML Hydrotest 2004 Project for Dixie Pipeline. This section was comprised of 12.75" O.D. x 0.250" W.T. x Grade X-52. The section was between M.P. 577.21 and M.P. 580.8 for a total length of 3.59 miles.

The test began at 8:45 am on May 01, 2004 and ended at 5:00 pm on May 01, 2004. The initial test pressure at the test site for the strength test was 1,928 psi. At 12:55 pm the test pressure was reduced from 1,927 psi to 1,828 psi to begin the leak test portion of the hydrotest. After the full 8-hours the final test pressure was 1,828 psi.

The ambient temperature at the test site was 70°F at the beginning of the test and reached a maximum of 82°F and was 82°F at the end of the test. The pipe temperature at the beginning of the test was 68°F and increased to a maximum of 84°F at the end of the test.

The minimum test pressure at the highest point in the test section during the strength test was 1,913 psi yielding 93.8% SMYS. The maximum test pressure at the lowest point during the strength test was 1,928 psi yielding 94.6% SMYS. The minimum test pressure at the highest point in the test section during the leak test was 1,812 psi yielding 88.8% SMYS. The maximum test pressure at the lowest point during the leak test was 1,828 psi yielding 89.6% SMYS. The test pressure was maintained throughout the duration of the test and was subsequently accepted as valid.

DIXIE PIPELINE

DM-ML HYDROTEST 2004

Test Section Number 2AS

M.P. 577.21 to M.P. 577.46

8 May 2004

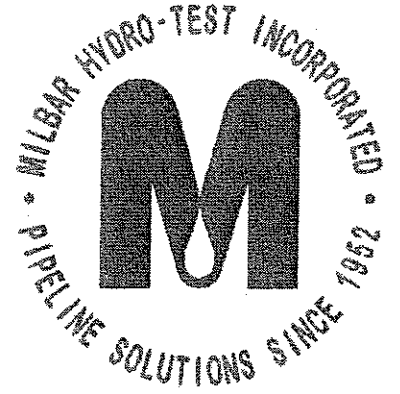
Test Summary:

The purpose of this report is to summarize the results from Test Section 2AS of the DM-ML Hydrotest 2004 Project for Dixie Pipeline. This section was comprised of 12.75" O.D. x 0.375" W.T. x Grade X-35. The section begins at M.P. 577.21 and ends at M.P. 577.46 for a total length of 1,336 feet.

The test began at 10:35 am on May 8, 2004 and ended at 6:35 pm on May 8, 2004. The initial test pressure at the test site for the strength test was 1,911 psi. The section was continually bled down throughout the duration of the test in order to prevent over pressuring due to temperature. At 2:35 pm the test pressure was reduced from 1,910 psi to 1,822 psi to begin the leak test portion of the hydro test. After the full 8-hours the final test pressure was 1,853 psi.

The ambient temperature at the test site was 79°F at the beginning of the test and reached a maximum of 90°F before decreasing to 81°F at the end of the test. The pipe temperature at the beginning of the test was 76°F and increased to a maximum of 84°F before decreasing to 81°F at the end of the test.

The minimum test pressure during the test was 1,822 psi yielding 88.5% SMYS. The maximum test pressure during the test was 1,915 psi yielding 83.0% SMYS. The test pressure was maintained throughout the duration of the test and was subsequently accepted as valid.



DIXIE PIPELINE

DM-ML HYDROTEST 2004

Test Section Number 2B

M.P. 580.8 to M.P. 631.4

02 May 2004

Test Summary:

The purpose of this report is to summarize the results from Test Section 2B of the DM-ML Hydrotest 2004 Project for Dixie Pipeline. This section was comprised of 12.75" O.D. x 0.250" W.T. x Grade X-52. The section was between M.P. 580.8 and M.P. 631.4 for a total length of 50.6 miles.

The test began at 8:30 am on May 02, 2004 and ended at 5:15 pm on May 02, 2004. The initial test pressure at the test site for the strength test was 1,986 psi. At 12:45 pm the test pressure was reduced from 1,985 psi to 1,885 psi to begin the leak test portion of the hydrotest. After the full 8-hours the final test pressure was 1,888 psi.

The ambient temperature at the test site was 68°F at the beginning of the test and reached a maximum of 74°F before decreasing to 63°F at the end of the test. The pipe temperature at the beginning of the test was 71°F and increased to a maximum of 73°F before decreasing to 71°F at the end of the test.

The minimum test pressure at the highest point in the test section during the strength test was 1,783 psi yielding 87.4% SMYS. The maximum test pressure at the lowest point during the strength test was 1,986 psi yielding 97.4% SMYS. The minimum test pressure at the highest point in the test section during the leak test was 1,683 psi yielding 82.5% SMYS. The maximum test pressure at the lowest point during the leak test was 1,888 psi yielding 92.6% SMYS. The test pressure was maintained throughout the duration of the test and was subsequently accepted as valid.

MUBAR HYDRO-TEST INCORPORATED

STROKE / PRESSURE LOG

Date: 04/23/04
Page: 1 of 2

Company & Contractor: DIXIE PIPELINE Co.
Project: Demopolis to Milner 2004
Contract Number:
Location: COOSA River
Pipe Description: 12 "O.D. .250 "W.T. X52 Grade
Section Number(s): 2-B
From: MP/STA 30668+62
To: MP/STA 33339+98
Length: 267,136'
Pressure Unit Location: 30668
Pressure Unit Number: PT-021
Gallons/Stroke: 0.463
Date & Time Start Pump: 04/23/04 6:00 ☒AM ☐PM Pressure: 1201
Date & Time Stop Pump: 04/23/04 8:46 ☒AM ☐PM Pressure:

Time	Pressure (psig)	Strokes	Difference
6:38 AM,	1400	0	—
	10	228	228
	20	437	209
	30	665	228
	40	888	223
6:47 ,	1450	1098	210
	60	1330	232
	70	1563	233
	80	1790	227
	90	1988	198
6:56 ,	1500	2212	224
	10	2429	217
	20	2645	216
	30	2868	223
	40	3088	220
7:05 ,	1550	3300	212
	60	3518	218
	70	3732	214
	80	3942	210
	90	4152	210
7:14 ,	1600	4370	218
	10	4581	211
	20	4792	211
	30	5000	208
	40	5217	217
7:23 ,	1650	5433	216
	60	5640	207
	70	5858	218
	80	6070	212
	90	6270	200
7:31 ,	1700	6488	218
	10	6694	206
	20	6895	201
	30	7117	222
	40	7322	205
7:43 ,	1750	7535	213
	60	7750	215
	70	7966	216
	80	8163	197
	90	8369	206
7:49 ,	1800	8575	206
	10	8780	205
	20	8980	200
	30	9188	208
	40	9395	207
7:57 ,	1850	9604	209
	60	9807	203
	70	10003	196
	80	10212	209
	90	10414	202
8:06 ,	1900	10617	203
	10	10817	200
	20	11020	203
	30	11220	200
	40	11420	200
8:14 ,	1950	11618	198
	60		

Log Continued: ☐ Yes ☐ No

Remarks: 8.16 AM BLOW OUT 11,837 STROKES

[redacted] Mubar Superintendent 04/23/04 Date

[redacted] Company Representative 4/23/04 Date

MILBAR HYDRO-TEST INCORPORATED

TEST LOG

Date: 04/30/04
Page: 1 of 1

Company & Contractor: Dixie PipeLine Co		Project: Demonbreun to Mt. Juliet 2004	
Contract Number:	Location: Cooper River	Pipe Description: 12 "O.D. .250 "W.T. X52 Grade	
Section Number(s): 26	From: MP/STA 30668+62	To: MP/STA 33339+98	Length: 50.6
Pressure Unit Location: 30668+62	Pressure Unit #: PT 930	Gallons/Stroke: .550	Strokes/10psi: 160
Test Pressure Maximum: 1987	Test Pressure Minimum: 1973	Test Medium: Water	Weather: Mostly Cloudy

Instruments	Dead Weight Gauge	Pressure	Temperature (Ambient)	Temperature (Pipe / Ground)	(Other)	(Other)
Range	50-3000psi	0-3000 psi	0-150°F	0-150°F		
Manufacturer	Chandler	Foxboro	Barton	Barton Dual Range		
Serial #	6106	1899611	202A-218039	218025		
Certification	08/10/04	09/11/04	09/11/04	08/11/04	/ /	/ /

Date & Time Test Started: 04/30/04 10:15 ☒ AM ☐ PM

Date & Time Test Ended: / / : ☐ AM ☐ PM

Time	Pressure (psig)	Temperature (°F) Ambient	Temperature (°F) Pipe / Ground	Remarks
9:57AM	1987	75°	68°/76°	
10:00	1986	75°	68°/76°	
10:15	1985	76°	68°/76°	
10:30	1985	77°	68°/76°	
10:45	1985	79°	68°/76°	
11:00	1985	79°	68°/76°	
11:15	1985	78°	68°/76°	
11:30	1985	76°	69°/76°	
11:45	1985	76°	69°/76°	
12:00PM	1985	75°	69/76	
12:15	1985	75°	69/76	
12:30	1984	75°	69/76	
1:00	1984	75°	69/76	
1:30	1984	75°	69/76	
1:42	1984	74°	69/76	BLOW OUT # 5

Time	Pressure (psig)	Temperature (°F) Ambient	Temperature (°F) Pipe / Ground	Remarks

Log Continued: ☐ Yes ☐ No

Remarks: 1:42 PM Blow Out See 26

Section Accepted ☐ Yes P-V Plot ☐ Yes Section Ruptured ☐ Yes Section Leaking ☐ Yes

[redacted] Milbar Superintendent — 04/30/04 Date

[redacted] Company Representative — 4/30/04 Date

White - Company Yellow - Milbar